Docket No. 1293.1851

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of :

Young-chan KIM et al. :

Serial No. 10/654,618 : Group Art Unit: 2629

Filed: September 4, 2003 : Examiner: Stephen G. SHERMAN

For: DISPLAY DEVICE AND METHOD OF CHECKING INPUT

APPEAL BRIEF

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In a Notice of Appeal filed July 2, 2007, the Applicants appealed the Examiner's April 2, 2007 Office Action finally rejecting claims 1-58. Therefore, Appellants' Brief is due September 2, 2007. A Petition for a 1-month extension of time is submitted herewith thereby extending the response due date to October 2, 2007. Appellants' Brief, together with the requisite fee set forth in 37 C.F.R. § 1.17, is submitted herewith.

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I. Real Party in Interest (37 C.F.R. § 41.37(c)(1)(i))

The real party in interest in this Appeal is Samsung Electronics Co., Ltd., the assignee of the subject application.

II. Related Appeals and Interferences (37 C.F.R. § 41.37(c)(1)(ii))

Appellants, Appellants' legal representatives, and the assignee are not aware of any other appeals or interferences which will directly affect or be directly affected by, or have a bearing on, the Board's decision in the pending Appeal.

III. Status of Claims (37 C.F.R. § 41.37(c)(1)(iii))

Appealed claims 1-58 have been finally rejected. These are the only pending claims in the subject application.

IV. Status of Amendments (37 C.F.R. § 41.37(c)(1)(iv))

Appellants' Response filed June 4, 2007 was not considered for purposes of Appeal as indicated by the Advisory Action mailed June 12, 2007.

V. Summary of Claimed Subject Matter (37 C.F.R. § 41.37(c)(1)(v))

The present invention relates to a display device and to a method of checking a signal input into the display device.

Referring to Fig. 1 and pp. 3-6, paragraphs 0011-0023, the present claimed invention set forth in claim 1 of a display device includes a signal identifying unit 113, a signal checking unit 115 and a signal changing unit 114. The signal identifying unit 113 receives an input signal and identifies the type of the input signal (see Fig. 1; see also p. 3, paragraph 0011, lines 4-8; p. 4, paragraph 0015, lines 2-3). The signal checking unit 115 checks whether the identified input signal is abnormal (see Fig. 1; see also p. 3, paragraph 0011, lines 9-10; paragraph 0012, lines 1-3; p. 4, paragraph 0015, lines 3-5). The signal changing unit 114 switches from the checked input signal to a next input signal to be checked based on set data corresponding to the identified type of the input signal so that the signal checking unit 115 checks whether the next input signal is abnormal, if the identified input signal is determined to be abnormal (see Figs. 1, 2 and 5; see also p. 3, paragraph 0011, lines 8-9; pp. 4-5, paragraph 0016).

Referring to Figs. 2 and 5 and pp. 3-6, paragraphs 0011-0023, the present claimed method of checking a signal input into a display device set forth in claim 6 includes receiving an input signal and identifying the type of the input signal that is received The method further includes checking whether the identified input signal is abnormal (operations 231, 233, 235, 237 and 240) (see Fig. 2; see also p. 3, paragraph 0011, lines 9-10; paragraph 0012, lines 1-3; p. 4, paragraph 0015, lines 3-5). The method further includes switching from the checked input signal to a next input signal to be checked based on set data corresponding to the identified type of the input signal so that whether the next input signal is abnormal is checked, if the input signal is checked and is determined to be abnormal (see Figs. 2 and 5; see also p. 3, paragraph 0011, lines 8-9; pp. 4-5, paragraph 0016; p. 6, paragraph 0023, lines 1-4).

Referring to Fig. 1 and pp. 3-6, paragraphs 0011-0023, the present claimed invention set forth in claim 11 of a display device includes a signal identifying unit 113, a signal checking unit 115 and a signal changing unit 114. The signal identifying unit 113 receives an input signal and identifies the type of received input signal (see Fig. 1; see also p. 3, paragraph 0011, lines 4-8; p. 4, paragraph 0015, lines 2-3). The signal checking unit 115 checks whether the identified input signal is abnormal or normal (operations 231, 233, 235, 237, 240, 650, 660) (see Figs. 1, 2 and 5; see also p. 3, paragraph 0011, lines 9-10; paragraph 0012, lines 1-3; p. 4, paragraph 0015, lines 3-5; p. 5, paragraph 0017, lines 1-3; p. 6, paragraph 0022, lines 15-17). The signal

changing unit 114 switches from the checked input signal to check a next input signal based on set data corresponding to the identified type of the input signal so that the signal checking unit 115 checks whether the next input signal is abnormal (see Figs. 1, 2 and 5; see also p. 3, paragraph 0011, lines 8-9; pp. 4-5, paragraph 0016). If the checked input signal is normal, the signal continues being displayed by the display device and if the checked input signal is abnormal, the signal stops being displayed by the display device (operation 670) (see Figs. 1 and 5; see also p. 5, paragraph 0017, lines 3-5; p. 6, paragraph 0022, lines 17-20).

Referring to Figs. 2 and 5 and pp. 3-6, paragraphs 0011-0023, the present claimed method set forth in claim 25 of a display device includes receiving an input signal and identifying the type of received input signal (operation 220) (see Fig. 2; see also p. 4, paragraph 0015, lines 1-3; p. 3, paragraph 0011, lines 4-8). The method further includes checking whether the received and identified input signal is abnormal or normal (operations 231, 233, 235, 237, 240, 650, 660) (see Figs. 2 and 5; see also p. 3, paragraph 0011, lines 9-10; paragraph 0012, lines 1-3; p. 4, paragraph 0015, lines 3-5; p. 5, paragraph 0017, lines 1-3; p. 6, paragraph 0022, lines 15-17). The method additionally includes switching from the checked input signal to a next received and identified input signal based on set data corresponding to the identified type of the input signal t to check whether the next received and identified input signal is abnormal (see Figs. 2 and 5; see also p. 3, paragraph 0011, lines 8-9; pp. 4-5, paragraph 0016; p. 6, paragraph 0023, lines 1-4). If the checked input signal is normal, the signal continues being displayed by the display device and if the checked input signal is abnormal, the signal stops being displayed by the display device (operation 670) (see Figs. 1 and 5; see also p. 5, paragraph 0017, lines 3-5; p. 6, paragraph 0022, lines 17-20).

Referring to Fig. 1 and pp. 3-6, paragraphs 0011-0023, the present claimed invention set forth in claim 40 includes a displaying device having a plurality of input ports 111, the displaying device including an input port selection unit 113, a signal checking unit 115, and a input port changing unit 114. The input port selection unit 113 selects an input port for receiving an input signal (see Fig. 1; see also p. 3, paragraph 0011, lines 4-8, for example). The signal checking unit 115 checks whether the selected input port is receiving a normal input signal (operation 660) (see Fig. 6; see also p. 6, paragraph 0022, lines 16-17, for example). The input port changing unit 114 switching from the checked input port to a next input port when the input port is not receiving a normal input signal, and at least one of the input ports has priority in an order

of checking by the signal checking unit 115 as compared to another input port (see Fig. 5; see also p. 5, paragraph 0020, lines 3-5, for example).

Referring to Figs. 1, 2, 5 and 6 and pp. 3-5, paragraphs 0010-0020, the present claimed invention set forth in claim 47 includes a displaying device having an analog input port 111 for receiving an analog signal, a digital input port 111 for receiving a digital signal, and an input port changing unit 114 (see Figs. 1 and 2; see operations 231, 233 identifying D-sub analog checking and DVI digital checking; see also p. 3, paragraph 0010, lines 4-7, paragraph 0011, lines 6-8). The input port changing unit 114 switches from the analog input port to the digital input port when the analog input port is not receiving a normal analog input signal (see Figs. 2, 5 and 6; see also p. 5, paragraphs 0016, lines 5-7 and paragraph 0020, lines 3-5, for example).

Referring to Fig. 1, 2, 5 and 6 and pp. 3-5, paragraphs 0010-0020, the present claimed invention set forth in claim 48 includes a displaying device having an analog input port 111 for receiving an analog signal, a digital input port 111 for receiving a digital signal, and an input port changing unit 114 (see Figs. 1 and 2; see operations 231, 233 identifying D-sub analog checking and DVI digital checking; see also p. 3, paragraph 0010, lines 4-7, paragraph 0011, lines 6-8). The port changing unit 114 switches from the digital input port to the analog input port when the digital input port is not receiving a normal analog input signal (see Figs. 2, 5 and 6; see also p. 5, paragraphs 0016, lines 5-7 and paragraph 0020, lines 3-5, for example, noting that the order of checking may be previously set such that the digital signal is checked first).

Referring to Figs. 2 and 6 and pp. 3-6, paragraphs 0011-0023, the present claimed invention set forth in claim 49 is a method of checking a signal input into a displaying device. The method includes selecting an input port among a plurality of input ports for receiving an input signal (see Fig. 2; see also p. 3, paragraph 0011, lines 4-8, for example). The method further includes checking whether the selected input port is receiving a normal input signal (operation 660) (see Fig. 6; see also p. 6, paragraph 0022, lines 16-17, for example). The method further includes switching from the checked input port to a next input port to be checked when a normal input signal is not being received from the selected input port, at least one of the input ports has priority in an order of checking by the signal checking unit 115 as compared to another input port (see Figs. 5 and 6; see also p. 5, paragraph 0020, lines 1-5, for example.

VI. Grounds of Rejection to be Reviewed on Appeal (37 C.F.R. § 41.37(c)(1)(vi))

Whether claims 1-3, 6-8, 11, 12, 17-19, 24, 25, 29, 30, 32, 33, 38-49, 53, 54 and 56-58 are patentable under 35 U.S.C. § 102(e) over Takano et al. (U.S. Patent Pub. No. 2005/0179822) ["Takano"].

Whether claims 14-16, 26-28 and 50-52 are patentable under 35 U.S.C. § 103(a) over Takano.

Whether claims 4, 5, 9, 10, 13, 20-23, 31, 34-37 and 55 are patentable over Takano in view of Yamashita et al. (U.S. Patent No. 5,80,693).

VII. Argument (37 C.F.R. § 41.37(c)(1)(vii))

The References

Takano

Takano is directed to a method and apparatus for automatically switching between analog and digital input signals. The system 300 includes a DTV 305 connected to analog and digital ports of a set-top box 310 and a digital VCR 315 via respective pairs of analog and digital video links (see Fig. 3; paragraph 0027, lines 4-7). The DTV 305 which includes a digital interface 308 that is designed to seek and store information allows the DTV 305 to uniquely identify analog inputs from among devices connected to analog input jacks 245 (see Fig. 3; paragraph 0028, lines 5-8). The set-top box 310 and VCR 315 include globally unique identifiers GUID1 and GUID2 which serve to uniquely identify set-top box 310 and digital VCR 315 on bus 255 (see Fig. 3; paragraph 0030, lines 1-4). A lookup table (LUT) 312 correlates devices on bus 255 with associated analog channels connected to analog input jacks 245 (see paragraph 0031, lines 1-3).

Further, in Takano, a screen 500 includes a window 505 displaying video derived from whichever analog input channel is selected by video selection circuit 230 (see Fig. 5; paragraph 0036, lines 1-4). Screen 500 prompts the viewer to select either a "yes" icon or a "no" icon, depending upon whether window 505 displays the appropriate analog signal (see paragraph 0036, lines 4-6). If the answer is "yes", then interface 315 fills in the field of lookup table 312 associated with the selected analog video input to map the GUID of the selected device to the appropriate analog plug ID, and if the answer to the decision is "no", interface 315 determines whether there are additional analog input channels left to try and interface 315 switches video selection circuit 230 to the next available analog input channel if there are (see paragraph 0037, lines 1-8).

Yamashita

Yamashita is directed to a video display apparatus with power saving modes in which two video signal input terminals 1 and 2 are connected to fixed contacts 3a and 3b, respectively of a selected (see Fig. 1; col. 4, lines 16-18). In Yamashita, a horizontal sync signal HS and a vertical sync signal VS obtained at the movable contact 3c of the selector 3 are supplied to a sync separator 6 (see col. 4, lines 21-23). In Fig. 2, at step S2, the horizontal sync signal HS

and the vertical sync VS are supplied through the sync separator 6 to the microcomputer, and at step S3, a decision is made as to whether the horizontal sync signal HS and the vertical sync signal NS are normal sync signals (see Fig. 2; col. 4, lines 55-61). If the horizontal sync signal HS and the vertical sync signal VS are the normal sync signals, then the video display apparatus is set to normal mode, and if the horizontal sync signal HS and the vertical sync signal VS supplied to video signal input terminal 1 are not the normal sync signals, the process pauses for one second and then the movable contact 3c of the selector 3 is switched to the fixed contact 3b in response to the control signal from the output port 10 of the microcomputer 9, whereby the signal from video signal input terminal 2 is supplied to the movable contact 3c (see col. 4, line 61 – col. 5, line15).

Independent Claim 1

In the Final Office Action, the Examiner rejected claim 1 over Takano and claims 4 and 5 over Takano in view of Yamashita. As these claims stand or fall together, the Appellant's argument is focused on independent claim 1.

Independent claim 1 recites a display device, including:

> a signal identifying unit that receives an input signal and identifies the type of the input signal;
>
> a signal checking unit that checks whether the identified input signal is abnormal; and
>
> a signal changing unit that switches from the checked input signal to a next input signal to be checked based on set data corresponding to the identified type of the input signal so that the signal checking unit checks whether the next input signal is abnormal, if the identified input signal is determined to be abnormal.

The Examiner alleges that Takano discloses "a display device (Figure 3) comprising: a signal identifying unit that receives an input signal and identifies the type of the input signal (Figure 3 shows item 315 (1394 INTERFACE) which receives the input signals from buss 255 and uses LUT 312 to identify the types of signals as explained in paragraph [0031]); a signal checking unit that checks whether the identified input signal is abnormal (Figure 3, USER INTERFACE 235 allows a user to check whether the current input signal is "abnormal" or not, i.e., the correct input signal, as explained in Figure 4, steps 445-465 and paragraph [0036]-

[0038]); and a signal changing unit that switches from the checked input signal to a next input signal to be checked based on set data corresponding to the identified type of the input signal so that the signal checking unit checks whether the next input signal is abnormal, if the identified input signal is determined to be abnormal (Figure 3 shows VIDEO SELECTION CIRCUIT 230 which is explained in paragraph [0037] to be able to switch between the different inputs AVO-AV2 and DV# based upon whether the input signal previously was detected to be "abnormal").

Signal Identifying Unit that Identifies the Type of Input Signal

Takano does not discuss or suggest that a type of input signal is identified. Takano discusses that the lookup table LUT 312 correlates devices on bus 255 with associated analog channels connected to analog input jacks 245 (see paragraph 0031, lines 1-3). However, correlating a device with its associated analog channel is not identifying a type of input signal. Takano includes no discussion of particularly identifying the type of the input signal.

Signal Checking Unit That Checks Whether the Identified Input Signal is Abnormal

Takano does not discuss or suggest the use of a physical signal checking unit that checks the abnormality of an identified input signal. Independent claim 1 recites a display device that includes a signal checking unit which checks whether the identified input signal is abnormal. A user selecting either a "yes" icon or a "no" icon depending upon whether window 505 displays the appropriate analog signal is not a physical signal checking unit which is part of a display device. The "signal checking unit" cited by the Examiner in this case is a user, which cannot be considered to be a unit of a display device. Further, Takano includes no unit that specifically checks the abnormality of an input signal because allowing a user to check whether the window displays an appropriate analog signal is not a checking unit that checks whether an identified input signal is abnormal.

The Examiner alleges, in the Advisory Action mailed June 12, 2007, that the interface 235 which allows the user to select whether the signal is abnormal is the "signal checking unit". Further, the Examiner alleges that "the claim does not preclude that the checking aspect is done by a user. The claim only requires to have a unit that will check the abnormality of the signal. Since the interface is pressed by a user to indicate the abnormality then the interface, in the

broadest reasonable interpretation of the claim, is a 'signal checking unit'." The Applicants disagree with the Examiner's assertion.

First, while the interface 235 does allow the user to select whether the signal is abnormal by allowing the user to select a "yes" or "no" icon and Takano clearly asserts that "Fig. 4 depicts **the user's decision** as decision 445," the interface 235, in its broadest reasonable interpretation cannot be construed by one of ordinary skill in the art to correspond with a signal checking unit that checks whether an identified input signal is abnormal. The interface 235 merely provides the user with the opportunity to make a determination as to whether the appropriate analog signal is displayed on the screen 500. The interface 235, however, does not check whether an identified input signal is abnormal. It is the user that makes the selection as to whether the identified input signal is abnormal or not. The interface 235, standing alone, cannot, without the user, check whether the identified input signal is abnormal. The determination as to whether the input signal is being appropriately displayed is made by the user alone and merely entered through the interface. Data being entered through an interface is not a physical unit which is part of a display device that checks whether an input signal is abnormal.

Second, as to the Examiner's assertion that the claim only requires to have a unit that will check the abnormality of the signal, the Applicants respectfully disagree. Claim 1 explicitly states a "signal checking unit that checks **whether** the identified input signal is abnormal. Claim 1 does not state that the signal checking unit checks that the input signal is abnormal. Therefore, the claim requires more than just having a unit that indicates that a check of the abnormality of the signal was done. Claim 1 requires that the signal checking unit checks whether the signal is abnormal. Interface 235 in Takano cannot be reasonably construed by one of ordinary skill in the art to be a checking unit that checks whether the input signal is abnormal, but can only be construed to be a unit that allows for a user to indicate that the input signal is, in fact, abnormal. There is no determination step in Takano with respect to the abnormality of the signal that is made by the interface 235. Merely allowing a user to indicate, after **the user** has checked whether the input signal is abnormal, that the input signal is abnormal is a unit that particularly checks whether the input signal is abnormal.

Further, the Applicants are entitled to have the Examiner give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). The supporting disclosure in this application particularly clarifies that the check as to the identified input signal's abnormality is making a determination as to whether that signal is abnormal. It is not a reasonable interpretation of the claims in light of the supporting disclosure that the term "checks" could be construed to be allowing a user to enter a decision. Further, claim 1 clarifies that the check of the signal's abnormality is as to whether, not that, the input signal is abnormal. With the inclusion of the term "whether" in claim 1, claim 1 is specifically clarifying that the signal checking unit makes a determination between two options, i.e., the signal being normal or the signal being abnormal. The interface 235 in Takano does not make a determination between two options, standing alone. The interface 235 merely provides an avenue for a user to enter a decision that the user has made as to whether the input signal is abnormal.

Signal Changing Unit

Additionally, Takano does not disclose or suggest a signal changing unit that switches from the checked input signal to a next input signal to be checked based on set data corresponding to the identified type of the input signal so that the signal checking unit checks whether the next input signal is abnormal, if the identified input signal is determined to be abnormal. Takano discusses that interface 315 switches video selection circuit 230 to a next available analog input channel after the user determines whether the window 505 displays the appropriate analog signal (see Fig. 3; paragraph 0037, lines 7-8). However, Takano does not suggest that the interface 315 switches to a next input signal to be checked based on set data corresponding to an identified type of the input signal. Takano merely discloses that, if the user selects a "no" icon indicating that the window 505 is not displaying the appropriate analog signal, then the interface 315 determines whether there are additional analog input channels left to try and switches to the next available analog input channel if there are (see paragraph 0037, lines 4-8).

Takano includes no discussion of basing the switching from one input signal to another input signal on data that corresponds with the identified type of the input signal. Takano merely discusses identifying the set-top box 310 and the digital VCR 315 with identifiers GUID1 and

GUID2, and further discusses that lookup table LUT 312 correlates devices on bus 255 with associated analog channels connected to analog input jacks 245 (see paragraphs 0030, lines 1-4, paragraph 0031, lines 1-3). However, Takano does not discuss or suggest that data is set which corresponds to an identified type of input signal and does not suggest that the interface 315 switches to a next available analog input channel based on data set which corresponds to an identified type of input signal. Correlating devices on bus 255 with associated analog channels connected to analog input jacks 245 is not set data corresponding to an identified type of input signal.

In the Advisory Action mailed June 12, 2007, the Examiner asserts that "the examiner interpreted 'based on set data corresponding to the identified type of input signal' to mean that since the video selection circuit 230 switches the input based upon the determination by the user, that this selection is done based upon whether the user determined the signal to be normal/abnormal. This means that the user selection is based on what signal is presented, which means that the selection circuit switches dependent upon the signal presented and the so called 'set data' is merely the 'yes' or 'no' provided by the user that determines the switching, and thus the inputs are switched based upon set data." The Applicants respectfully disagree.

The selection by the user of whether the window 505 displayed the appropriate analog signal cannot be construed to correspond with "set data corresponding to the identified type of input signal". The user selecting "yes" or "no" is not set data corresponding to an identified type of input signal. There is no indication in Takano that when the signal is displayed to the user to prompt a selection of "yes" or "no", that the signal which is presented is an identified type of input signal. As discussed above, correlating devices with associated analog channels connected to analog input jacks 245 is not identifying a type of device, but merely identifying a channel that is associated with a specific device. In contrast, the present invention of claim 1 requires that the type of input signal, i.e., D-sub analog, DVI digital, video, TV, is particularly identified and once the signal is identified, set data corresponding to that identified type of input signal is used by a signal changing unit to switch from a checked input signal to a next input signal to be checked so that the signal checking unit checks whether the next input signal is abnormal, if the identified input signal is determined to be abnormal.

Further, Takano does not discuss or suggest that the video selection circuit 230 switches to a next input signal to be checked so that the signal checking unit checks whether the next input signal is abnormal, if the identified input signal is determined to be abnormal. As discussed above, the interface 315 does not check whether a next input signal is abnormal if an identified input signal is determined to be abnormal, but merely provides an avenue for the user to enter his/her selection.

Thus, the Applicants respectfully submit that Takano does not discuss or suggest "a signal identifying unit that receives an input signal and identifies the type of the input signal; a signal checking unit that checks whether the identified input signal is abnormal; and a signal changing unit that switches from the checked input signal to a next input signal to be checked based on set data corresponding to the identified type of the input signal so that the signal checking unit checks whether the next input signal is abnormal, if the identified input signal is determined to be abnormal," as recited in independent claim 1.

Independent Claim 6

In the Final Office Action, the Examiner rejected claim 6 over Takano and claims 9 and 10 over Takano in view of Yamashita. As these claims stand or fall together, the Appellant's argument is focused on independent claim 6.

Independent claim 6 recites a method of checking a signal input into a display device, including:

> receiving the input signal and identifying a type of the input signal that is received;
>
> checking whether the identified input signal is abnormal; and
>
> switching from the checked input signal to a next input signal to be checked based on set data corresponding to the identified type of the input signal so that whether the next input signal is abnormal is checked, if the input signal is checked and is determined to be abnormal.

Takano does not discuss or suggest receiving an input signal and identifying a type of the input signal that is received for the same rationale as that presented at claim 1. Takano fails to specifically teach identifying a type of the input signal that is received.

In addition, Takano does not discuss or suggest switching from the checked input signal to a next input signal to be checked based on set data corresponding to the identified type of the input signal so that whether the next input signal is abnormal is checked, if the input signal is checked and is determined to be abnormal for the same rationale as that presented with respect to claim 1.

Thus, the Applicants respectfully submit that Takano does not discuss or suggest the features of independent claim 6.

Independent Claim 11

In the Final Office Action, the Examiner rejected claims 11 and 14-16 over Takano and claims 13 and 20-23 over Takano in view of Yamashita. As these claims stand or fall together, the Appellant's argument is focused on independent claim 11.

Independent claim 11 recites a display device, including:

> a signal identifying unit receiving an input signal and identifying the type of received input signal;
>
> a signal checking unit checking whether the identified input signal is abnormal or normal; and
>
> a signal changing unit switching from the checked input signal to check a next input signal based on set data corresponding to the identified type of the input signal so that the signal checking unit checks whether the next input signal is abnormal;
>
> wherein if the checked input signal is normal, the signal continues being displayed by the display device and if the checked input signal is abnormal, the signal stops being displayed by the display device.

Takano does not discuss or suggest a signal identifying unit receiving an input signal and identifying the type of received input signal, a signal checking unit checking whether the identified input signal is abnormal or normal, and a signal changing unit switching from the checked input signal to check a next input signal based on set data corresponding to the identified type of the input signal so that the signal checking unit checks whether the next input signal is abnormal for the same rationale as that presented with respect to claim 1.

Further, Takano does not discuss or suggest that if the checked input signal is normal, the signal continues being displayed by the display device and if the checked input signal is

abnormal, the signal stops being displayed by the display device. Takano merely discusses that if the viewer selects a "yes" icon as to whether window 505 is displaying an appropriate analog signal, interface 315 fills in a field of lookup table 312 associated with the selected analog video input to map the GUID of the selected device to the appropriate analog plug ID. Takano does not suggest that if the viewer selects a "yes" icon indicating that the window 505 is displaying the appropriate analog signal that the signal continues being displayed by the window 505. Takano only discusses that the interface 315 fills in the field of look up table 312 if the viewer selects the "yes" icon. Takano includes no indication that that signal continues being displayed, even for a second. Further, the Examiner is not permitted to read limitations into a specification that do not explicitly exist in the disclosure provided.

The Examiner alleges in the Advisory Action mailed June 12, 2007 that "even if the video signal is displayed for a second after the determination that this constitutes as the claimed 'continuing'." The Applicants respectfully submit that it is not in the Examiner's purview to make such an assumption, without the explicit recitation in the reference itself. Takano discusses only that the interface 315 fills in the field of lookup table 312 if the decision is yes, and that the process of Fig. 4 continues until either the correct video input is found and mapped or there are no more analog input channels to try (see Fig. 4; paragraphs 0037, 0038). Takano further specifically recites that "[i]n either case, the process moves to step 425, in which interface 315 determines whether there is another listed device; if so, the next device is selected (step 460) and the process returns to step 420; otherwise, the set-up process is finished" (see paragraph 0038, lines 6-10). Therefore, Takano is specifically clarifying that even if the user selects "yes" and the correct video input is mapped to the lookup table 312, the process moves then to determine whether there is another listed device. The input signal does not continue to be displayed upon a determination that the window is displaying the appropriate analog signal.

Thus, the Applicants respectfully submit that Takano does not discuss or suggest the features of independent claim 11.

Independent claim 25

In the Final Office Action, the Examiner rejected claims 25-28 over Takano and claims 31 and 34-37 over Takano in view of Yamashita. As these claims stand or fall together, the Appellant's argument is focused on independent claim 25.

Independent claim 25 recites a display device, including:

> receiving an input signal and identifying the type of received input signal;
>
> checking whether the received and identified input signal is abnormal or normal; and
>
> switching from the checked input signal to a next received and identified input signal based on set data corresponding to the identified type of the input signal to check whether the next received and identified input signal is abnormal;
>
> wherein if the checked input signal is normal, the signal continues being displayed by the display device and if the checked input signal is abnormal, the signal stops being displayed by the display device,

as recited in independent claim 25.

Takano does not discuss or suggest receiving an input signal and identifying the type of received input signal, checking whether the received and identified input signal is abnormal or normal, and switching from the checked input signal to a next received and identified input signal based on set data corresponding to the identified type of the input signal to check whether the next received and identified input signal is abnormal for the same rationale as that presented with respect to independent claim 1.

Takano does not discuss or suggest that if the checked input signal is normal, the signal continues being displayed by the display device and if the checked input signal is abnormal, the signal stops being displayed by the display device for the same rationale as that presented with respect to independent claim 11.

Dependent Claim 39

Takano does not discuss or suggest continuing displaying the input signals if the input signals are in a normal state and stopping displaying the input signals if the input signals are in

an abnormal state for the same rationale as that presented with respect to independent claim 11.

Independent Claim 40

Claim 40 recites a displaying device having a plurality of input ports, including:

> an input port selection unit for selecting an input port for receiving an input signal;
>
> a signal checking unit for checking whether the selected input port is receiving a normal input signal; and
>
> an input port changing unit for switching from the checked input port to a next input port when the input port is not receiving a normal input signal, wherein at least one of the input ports has priority in an order of checking by the signal checking unit as compared to another input port.

Takano does not discuss or suggest a signal checking unit for checking whether the selected input port is receiving a normal input signal for the same rationale as that presented with respect to independent claim 1.

Takano does not discuss or suggest that at least one of the input ports has priority in an order of checking by a signal checking unit as compared to another input port. The Examiner alleges that "the first device is selected first and that the first analog video signal from the first device is checked first, which means that since the first device is selected first, it has a higher priority in the checking order." The Applicants respectfully disagree. Merely selecting a device to be checked is not assigning a priority to that particular device. The Examiner asserts that the input ports are what is being detected. However, if the input port is detected only after the first device is selected, then it is not possible for Takano to teach that one of the input ports has priority in an order of checking by the signal checking unit as compared to another input port if the input ports are only detected after a device is selected. One input port cannot have priority compared to other input ports if the input ports are only detected after the decision has been made to select the first device.

In addition, it is well known in the art that making a determination of priority does not equate to merely selecting a first device of many devices. Selecting a first device at random is not, as typically applied in the art, having a priority in an order of checking of one device versus

another device or port. If this interpretation were to hold, then every single device that is checked first could be assumed to have a higher priority merely because the device was checked before another device, even if the selection of the first device was at random.

Therefore, the Applicants respectfully submit that Takano does not discuss or suggest the features of independent claim 40.

Independent Claims 47 and 48

Independent claim 47 recites a displaying device, including:

> an input port changing unit for switching from the analog input port to the digital input port when the displaying device determines that the analog input port is not receiving a normal analog input signal.

Independent claim 48 recites a displaying device, including:

> an input port changing unit for switching from the digital input port to the analog input port when the displaying device determines that the digital input port is not receiving a normal digital input signal.

Takano discusses only that a DTV 105 includes a display 125, a digital interface 130, and a switch 135, where interface 130 controls switch 135 to select between digital channel 115 and analog channel 120 (see Fig. 1; paragraph 0006). Takano further discusses that a DVCR 110 includes a panel subunit 140 and a VCR subunit 145, in which the panel subunit 140 communicates with the digital interface 130 and VCR subunit 145 provides digital signals to DTV 105 via panel subunit 140 and digital channel 115, and provides an analog signal to DTV 105 via analog channel 120 (see paragraph 0006). Takano further discusses that in the absence of an intelligent interface, the user of system 100 would have to know at any given moment whether the output of the DVCR 110 was an analog signal or a digital signal, and the user would then have to instruct DTV 105 to select the appropriate analog or digital input (see paragraph 0007).

However, Takano includes no discussion of that which was set forth by the Examiner, namely, that if a digital video is placed in the DVCR 110 and an analog input channel is selected, then a "normal" analog input signal would not be received and that when nothing is displayed after the user presses "play" then the user will switch to the digital channel, meaning that the switching unit 135 will switch based on the signal from digital interface 130 when the

analog channel is not receiving a "normal" signal. Takano includes no discussion of a video being placed in DVCR 110 and then an analog input channel being selected. The Examiner cannot read limitations or scenarios into the specification that are not recited by the specification.

Takano discusses only that a user would have to instruct DTV 105 to select an appropriate analog or digital input based on whether the output of the DVCR 110 was an analog or digital signal (see paragraph 0007, lines 4-6). Takano does not discuss or suggest that the DTV 105 includes an input port changing unit that switches from an analog input port to a digital input port when the DTV 105 determines that the analog input port is not receiving a normal analog input signal or switches from the digital input port to the analog input port when the DTV 105 determines that the digital input port is not receiving normal digital input signal.

Merely issuing a "CONNECT" command over digital channel 115 to instruct digital interface 130 to issue an appropriate video-select command on port VS to switch 135 between analog channel 120 and digital channel 115, but it is not the DTV 105 that determines that an analog input port is not receiving a normal analog input signal or that a digital input port is not receiving a normal digital input signal. DTV 105 merely receives a connect command from the DVCR 110 based on whether the output of the DVCR 110 was an analog signal or a digital signal. Once the "CONNECT" command is issued by the DVCR 110, and received by the digital interface 130, the DTV 105 switches from the analog channel 120 to the digital channel 115. The DTV 105, however, is not determining that an analog or digital video port is not receiving a normal respective analog or digital input signal. Thus, Takano is not suggestive of a displaying device determining that the digital or analog input port is not receiving a normal digital or analog signal, respectively. Takano discusses that the "CONNECT" command comes from the DVCR 110, which is not interpreted by the Examiner to correspond to the displaying device of the present invention of claim 47, for example. The DTV 105 is not determining that the digital interface 130 or the analog interface is not receiving a normal digital signal or a normal analog signal, respectively, and that the DTV 105 includes an input port changing unit that switches from a digital or analog input port when the DTV 105 determines that the digital or analog input port is not receiving a normal digital or analog signal, respectively.

Thus, the Applicants respectfully submit that Takano does not discuss or suggest the features of independent claims 47 and 48.

Independent Claim 49

In the Final Office Action, the Examiner rejected claim 49-52 over Takano and claim 55 over Takano in view of Yamashita. As these claims stand or fall together, the Appellant's argument is focused on independent claim 49.

Independent claim 49 recites a method of checking a signal input into a displaying devices, including:

> selecting an input port among a plurality of input ports for receiving an input signal;
>
> checking whether the selected input port is receiving a normal input signal; and
>
> switching from the checked input port to a next input port to be checked when a normal input signal is not being received from the selected input port, wherein at least one of the input ports has priority in an order of checking by the signal checking unit as compared to another input port.

Takano does not discuss or suggest the features of claim 49 for the same rationale as presented with respect to independent claim 40.

Dependent Claims 18 and 32

Takano does not discuss or suggest that a signal checking unit checks whether the identified input signal is abnormal by decoding the identified input signal. The Examiner rejects claim 18 for the same rationale as claim 3, but claim 3 recites that the signal checking unit checks whether the identified input signal is abnormal by one of decoding the identified input signal and sensing whether the input signal cable is connected to the display device. The Examiner then rejects claim 3 only on rationale related to sensing whether the input signal cable is connected to the display device. Takano does not suggest that the input signal is checked by decoding it. Therefore, claims 18 and 32 patentably distinguish over Takano.

Dependent Claims 24, 38, 41-43 and 56-58

Takano does not discuss or suggest that the display device includes a menu from which a user determines the identified input signal is to be checked and a checking order. As discussed above, the user does not determine a checking order in Takano, but merely selects a first device on the list. Therefore, claims 24, 38, 41-43 and 56-58 patentably distinguish over Takano.

Conclusion

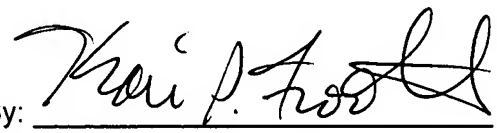
In summary, the Applicants submit that claims 1-58 patentably distinguish over the references relied upon. Accordingly, the Applicants respectfully request reversal of the Examiner's rejection.

The Commissioner is authorized to charge any Appeal Brief fee or Petition for Extension of Time fee for underpayment, or credit any overpayment, to Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: October 2, 2007

By: 

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VIII. Claims Appendix (37 C.F.R. § 41.37(c)(1)(viii))

1. (Previously Presented) A display device comprising:

a signal identifying unit that receives an input signal and identifies the type of the input signal;

a signal checking unit that checks whether the identified input signal is abnormal; and

a signal changing unit that switches from the checked input signal to a next input signal to be checked based on set data corresponding to the identified type of the input signal so that the signal checking unit checks whether the next input signal is abnormal, if the identified input signal is determined to be abnormal.

2. (Original) The display device of claim 1, wherein the signal identifying unit identifies whether the received input signal is one of a D-sub analog signal, a DVI analog signal, a DVI digital signal, and a VIDEO signal.

3. (Original) The display device of claim 1, wherein the signal checking unit checks whether the identified input signal is abnormal by one of decoding the identified input signal and sensing whether an input signal cable is connected to the display device.

4. (Original) The display device of claim 1, further comprising a data setting unit that sets one of a number of times the identified input signal is checked, a time required to check the identified input signal, and a position of the identified input signal to be checked within a sequence of identified input signals to be checked,

wherein if the signal checking unit has not checked one of the number of set times whether the identified input signal is abnormal and has not checked for the period of set time whether the identified input signal is abnormal, the signal checking unit continues checking whether the identified input signal is abnormal.

5. (Original) The display device of claim 4, further comprising a signal controlling unit that checks the position of the checked input signal within the sequence of identified input signals to be checked to determine which identified input signal is to be checked after the checked input signal,

wherein the signal changing unit switches from the checked input signal to the determined input signal so that the signal checking unit checks whether the determined input signal is abnormal.

6. (Previously Presented) A method of checking a signal input into a display device, the method comprising:

receiving the input signal and identifying a type of the input signal that is received;

checking whether the identified input signal is abnormal; and

switching from the checked input signal to a next input signal to be checked based on set data corresponding to the identified type of the input signal so that whether the next input signal is abnormal is checked, if the input signal is checked and is determined to be abnormal.

7. (Original) The method of claim 6, wherein the identifying comprises determining whether the input signal is one of a D-sub analog signal, a DVI analog signal, a DVI digital signal, and a VIDEO signal.

8. (Original) The method of claim 6, wherein the checking comprises determining whether the input signal is abnormal by at least one of decoding the input signal and sensing whether an input signal cable is connected to the display device.

9. (Original) The method of claim 6, wherein the checking comprises setting one of a number of times the identified input signal is checked, a time required to check the identified input signal, and a position of the identified input signal to be checked within a sequence of identified input signals to be checked,

wherein if the checking whether the identified input signal is abnormal has not been performed one of the number of set times and checking whether the identified input signal is abnormal has not been performed for the period of set time, checking whether the identified input signal is abnormal continues.

10. (Original) The method of claim 9, wherein the checking further comprises checking the position of the checked input signal within the sequence of identified input signals to be checked to determine which identified input signal is to be checked after the checked input signal,

wherein the checked input signal is switched to the determined input signal so that whether the determined input signal is abnormal is checked.

11. (Previously Presented) A display device comprising:

a signal identifying unit receiving an input signal and identifying the type of received input signal;

a signal checking unit checking whether the identified input signal is abnormal or normal; and

a signal changing unit switching from the checked input signal to check a next input signal based on set data corresponding to the identified type of the input signal so that the signal checking unit checks whether the next input signal is abnormal;

wherein if the checked input signal is normal, the signal continues being displayed by the display device and if the checked input signal is abnormal, the signal stops being displayed by the display device.

12. (Original) The display device of claim 11, wherein the identified input signal and the next input signal are abnormal if cables carrying the signals are not connected to the display device.

13. (Original) The display device of claim 11, wherein the identified input signal and the next input signal are abnormal if H-sync and V-sync patterns associated with the signals are abnormal.

14. (Original) The display device of claim 11, wherein the signal identifying unit identifies whether the received input signal is a D-sub analog signal.

15. (Original) The display device of claim 11, wherein the signal identifying unit identifies whether the received input signal is a DVI analog signal.

16. (Original) The display device of claim 11, wherein the signal identifying unit identifies whether the received input signal is a DVI digital signal.

17. (Original) The display device of claim 11, wherein the signal identifying unit identifies whether the received input signal is a VIDEO signal.

18. (Original) The display device of claim 11, wherein the signal checking unit checks whether the identified input signal is abnormal by decoding the identified input signal.

19. (Original) The display device of claim 11, wherein the signal checking unit checks whether the identified input signal is abnormal by sensing whether an input signal cable is connected.

20. (Original) The display device of claim 11, further comprising a data setting unit that sets the number of times the identified input signal is checked, wherein if the signal checking unit has not checked the number of set times, the signal checking unit continues the checking.

21. (Original) The display device of claim 11, further comprising a data setting unit that sets the time required to check the identified input signal, wherein if the signal checking unit has not checked the identified input signal for the set period of time, the signal checking unit continues checking whether the identified input signal is abnormal.

22. (Original) The display device of claim 11, further comprising a data setting unit that sets the position of the identified input signal to be checked within a sequence of identified input signals to be checked.

23. (Original) The display device of claim 22, further comprising a signal controlling unit that checks the position of the checked input signal within the sequence of identified input signals to be checked to determine which identified input signal is to be checked after the checked input signal,

wherein the signal changing unit switches from the checked input signal to the determined input signal so that the signal checking unit can check whether the determined input signal is abnormal.

24. (Original) The display device of claim 11, further comprising a menu from which a user determines the identified input signal is to be checked and a checking order.

25. (Previously Presented) A method of checking a signal input into a display device, the method comprising:

receiving an input signal and identifying the type of received input signal;

checking whether the received and identified input signal is abnormal or normal; and

switching from the checked input signal to a next received and identified input signal based on set data corresponding to the identified type of the input signal to check whether the next received and identified input signal is abnormal;

wherein if the checked input signal is normal, the signal continues being displayed by the display device and if the checked input signal is abnormal, the signal stops being displayed by the display device.

26. (Original) The method of claim 25, wherein the identifying comprises identifying whether the input signal is a D-sub analog signal.

27. (Original) The method of claim 25, wherein the identifying comprises identifying whether the input signal is a DVI analog signal.

28. (Original) The method of claim 25, wherein the identifying comprises identifying whether the input signal is a DVI digital signal.

29. (Original) The method of claim 25, wherein the identifying comprises identifying whether the input signal is a VIDEO signal.

30. (Original) The method of claim 25, wherein the checking comprises checking whether a cable carrying the received and identified signal is connected to the display device.

31. (Original) The method of claim 25, wherein the checking comprises checking whether H-sync and V-sync patterns associated with the received and identified signal are abnormal.

32. (Original) The method of claim 25, wherein the checking comprises decoding the input signal.

33. (Original) The method of claim 25, wherein the checking comprises sensing whether a signal input cable is connected.

34. (Original) The method of claim 25, wherein the checking comprises setting the number of times the input signal is checked, wherein if the checking whether the input signal is abnormal has not been performed the number of set times, the checking whether the input signal is abnormal continues.

35. (Original) The method of claim 25, wherein the checking comprises setting the time required to check the input signal, wherein if the checking whether the input signal is abnormal has not been performed for the period of set time, the checking whether the input signal is abnormal continues.

36. (Original) The method of claim 25, wherein the checking comprises checking the position of the input signal to be checked within a sequence of input signals to be checked.

37. (Original) The method of claim 36, wherein the checking further comprises checking the position of the checked input signal within the sequence of input signals to be checked to determine which input signal is to be checked after the checked input signal,

wherein the checked input signal is switched to the determined input signal so that whether the determined input signal is abnormal can be checked.

38. (Original) The method of claim 25, wherein the checking comprises determining from a menu the received and identified input signal to be checked and an order of checking.

39. (Previously Presented) The method of claim 25, further comprising:

continuing displaying the input signals if the input signals are in a normal state; and

stopping displaying the input signals if the input signals are in an abnormal state.

40. (Previously Presented) A displaying device having a plurality of input ports comprising:

an input port selection unit for selecting an input port for receiving an input signal;

a signal checking unit for checking whether the selected input port is receiving a normal input signal; and

an input port changing unit for switching from the checked input port to a next input port when the input port is not receiving a normal input signal, wherein at least one of the input ports has priority in an order of checking by the signal checking unit as compared to another input port.

41. (Previously Presented) The displaying device of claim 40, wherein the order of checking of the input port is selected among a plurality of checking orders.

42. (Previously Presented) The displaying device of claim 41, wherein the checking order is set by the user.

43. (Previously Presented) The displaying device of claim 42 wherein a menu is provided on a screen of the displaying device to set the checking order.

44. (Previously Presented) The displaying device of claim 40, wherein the input port selection unit selects whether the input signal is one of a D-sub analog signal, a DVI analog signal, a DVI digital signal, and a VIDEO signal.

45. (Previously Presented) The displaying device of claim 40, wherein the signal checking port checks whether the input signal is normal by decoding the input signal or sensing whether a cable via which each signal is input is connected.

46. (Previously Presented) The displaying device of claim 40, wherein the displaying device is capable of displaying a computer signal.

47. (Previously Presented) A displaying device comprising:

an analog input port for receiving an analog signal;

a digital input port for receiving a digital signal; and

an input port changing unit for switching from the analog input port to the digital input port when the analog input port is not receiving a normal analog input signal.

48. (Previously Presented) A displaying device comprising:

an analog input port for receiving an analog signal;

a digital input port for receiving a digital signal; and

an input port changing unit for switching from the digital input port to the analog input port when the digital input port is not receiving a normal digital input signal.

49. (Previously Presented) A method of checking a signal input into a displaying device, the method comprising:

selecting an input port among a plurality of input ports for receiving an input signal;

checking whether the selected input port is receiving a normal input signal; and

switching from the checked input port to a next input port to be checked when a normal input signal is not being received from the selected input port, wherein at least one of the input port has priority in an order of checking by the signal checking unit as compared to another input port.

50. (Previously Presented) The method of claim 49, wherein the selecting step select a D-sub analog port for D-sub analog signal.

51. (Previously Presented) The method of claim 49, wherein the selecting step select DVI analog port for DVI analog signal.

52. (Previously Presented) The method of claim 49, wherein the selecting step select DVI digital port for DVI digital signal.

53. (Previously Presented) The method of claim 49, wherein the selecting step select VIDEO port for VIDEO signal.

54. (Previously Presented) The method of claim 49, wherein whether the input signal is normal is checked by decoding the input signal or sensing whether a cable via which each signal is input is connected.

55. (Previously Presented) The method of claim 49, wherein whether the input signal is abnormal is checked by checking whether H-sync and V-sync patterns associated with the received signal ~~is~~ abnormal.

IX. Evidence Appendix (37 C.F.R. § 41.37(c)(1)(ix))

None

X. Related Proceedings Appendix (37 C.F.R. § 41.37(c)(1)(x))

None